

Appl. Ser. No. 10/620,731
Docket No. 125426-1001



Appl. No. : 10/620,731 Confirmation No. 9032
Applicant : Wesley M. Mays
Filed : July 16, 2003
TC/A.U. : 3634
Examiner : Blair M. Johnson
Docket No. : 125426-1079
Customer No. : 32914

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING

(37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail and in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Anne Ziegler

Anne Ziegler

(Signature of person mailing paper)

Date: Dec. 9, 2005

BRIEF ON APPEAL

Sir:

Pursuant to the Final Rejection dated April 6, 2005, and the Notice of Appeal filed July 11, 2005, in the above-identified patent application, Appellant submits the following Appeal Brief.

REAL PARTY IN INTEREST

The real party in interest in the above-identified patent application is Overhead Door Corporation, the Assignee, pursuant to an Assignment from the inventor recorded in the Patent and Trademark Office at Reel 012144, Frame 0821 on September 10, 2001.

RELATED APPEALS AND INTERFERENCES

There are no related appeals, interferences or judicial proceedings known to Appellant or Appellant's legal representatives which may be related to, will directly affect or be directly affected by or have a bearing on the Board's decision on the pending appeal.

12/12/2005 ZJUHAR1 00000042 10620731

01 FG:1253

1020.00 0P

500.00 0P
12/12/2005 ZJUHAR1 00000042 10620731
02 FG:1402

STATUS OF CLAIMS

Claims 44 and 46 through 56 are currently pending in this application pursuant to an amendment filed on December 22, 2004.

Claims 1 through 43 and 45 have been canceled.

Claims 46 and 47 have been allowed pursuant to the Office Action dated April 6, 2005.

Claims 44 and 48 through 56 have been finally rejected pursuant to the Office Action dated April 6, 2005.

The rejection of Claims 44 and 48 through 56 is being appealed.

Copies of Claims 44 and 46 through 56 are attached as an Appendix to this Brief.

STATUS OF AMENDMENTS

No amendment has been filed subsequent to the Final Rejection of Claims 44 and 48 through 56 set forth in the Office Action of April 6, 2005.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 44 is directed to a method for operating a barrier, such as a gate or garage door, to move between open and closed positions and being operably connected to a system including a controller having a base control circuit, a radio frequency base transmitter and a radio frequency base receiver, together with plural remote control units operable to communicate with the controller, the control units including a radio frequency remote transmitter and a radio frequency remote receiver. Garage door (20) and operator system (21) are described on pages 4 and 5, paragraph 0016 beginning on line 8 through the end of the paragraph. An operator controller (36), wall mountable control unit (38) and remote control units (46) and (48) are described beginning on page 5, paragraph 0017, beginning on line 3 and on page 6, paragraph 0018, beginning on line 1. Controller (36) is described as having a radio frequency transmitter (54) and a radio frequency receiver (56) beginning on page 6, paragraph 0019, line 10. Remote control units (46) and (48) are

described as having a radio frequency receiver (58) and a radio frequency transmitter (60) operably connected to a suitable control circuit (62) as described on page 7, beginning on line 1 of paragraph 0020.

The above described operator system is operable in accordance with Claim 44 to cause the base transmitter to transmit a radio frequency signal to the remote receivers, cause the control circuit to effect one of opening and closing the barrier depending on whether or not the base receiver receives a signal from at least one remote control transmitter and cause the barrier to move from a closed position to an open position in response to a signal from any one of the remote transmitters and remain in the open position as long as any one of the remote control units is within a radio frequency communication range of the controller. These steps are described in conjunction with Figure 4 of the drawing and on page 17, paragraph 0038, in its entirety.

With regard to independent Claim 46, the operator system described therein is essentially as described for Claim 44 but further includes an operator controllable base switch (40) connected to a base control circuit which is described on page 5, paragraph 0017, beginning on line 6. Claim 46 further recites the steps of causing the base transmitter to transmit a radio frequency signal to the remote receivers, causing the controller to effect one of opening and closing the barrier dependent on receiving a signal from one of the remote control units, actuating the base switch to close the barrier, causing the controller to determine if all of the remote control units are within range effective to receive signals from the remote transmitters and causing the base transmitter to cease transmitting if all of the remote units are within the range. This process is believed to be adequately described on page 16, paragraph 0035, beginning on line 11 thereof, and on page 17, paragraph 0036, beginning on line 8 thereof.

With regard to independent Claim 47, the system set forth in the preamble of this method claim is described in the

specification in the same locations as recited above for Claim 44. Claim 47 further recites the steps of causing the base transmitter to transmit a signal to the remote receivers and causing the controller to effect one of opening and closing the barrier dependent on the base receiver receiving a signal from a remote transmitter, causing the controller to effect closing the barrier and ceasing transmission of signals from the transmitter if the base receiver receives a signal from all of the remote control units. The description in the specification regarding this methodology is believed to be adequately described in the same places as set forth above for Claim 46.

With regard to Claim 48, the operator system including the controller and remote control units recited in this claim are believed to be adequately described in the same places in the specification as set forth above for Claim 44. Claim 48 recites the method of causing the base transmitter to transmit a radio frequency signal to the remote receivers, actuating a base switch to effect opening of the barrier and causing the controller to maintain the barrier in an open condition as long as the base receiver receives a signal from at least one remote transmitter. The steps set forth in Claim 48 are believed to be adequately described on page 17 beginning with line 1 of paragraph 0038 and continuing through the end of paragraph 0038.

Claim 49 describes a method for operating a barrier including an operator system as described in the same places in the specification as described for Claims 44 and 48. The method set forth in Claim 49 includes the steps of causing the base transmitter to transmit a radio frequency signal to the remote receivers, actuating one of the remote switches to effect closing the barrier and maintaining the barrier closed if at least one of the remote receivers is outside a signal receiving range from the base transmitter and another one of the remote receivers is in signal receiving range of the base transmitter. Support for the methodology of Claim 49 is

believed to be adequately described on page 17, paragraph 0036 in its entirety.

Claim 50 includes recitation of an operator system as set forth in the specification in the same places as described for Claim 44. The method steps of Claim 50 include causing the base transmitter to transmit a signal to the remote receivers, causing the controller to open the barrier and causing the controller to maintain the barrier open if one of the remote control units is in signal receiving range and another one of the remote control units is out of signal receiving range. The methodology set forth in Claim 50 is believed to be adequately described on page 17 beginning with paragraph 0038 in its entirety.

With regard to Claim 51, dependent on Claim 50, the step set forth in this claim is also believed to be described in paragraph 0039 on page 18 beginning with line 5 of the paragraph.

With regard to Claim 52, the operator system set forth in the claim is believed to be adequately described in the same places in the specification as set forth for Claim 44. Claim 52 recites the steps of causing the controller to close the barrier in response to actuation of a remote switch or a base switch, causing the base transmitter to transmit a radio frequency signal to the remote receivers and causing the barrier to open when the base receiver receives a signal from one of the remote transmitters in response to a signal from the base transmitter. The steps of Claim 52 are believed to be adequately described on page 17 beginning on line 1 of paragraph 0037 and throughout the paragraph.

The operator system described in Claim 53 is believed to be adequately described in the same places in the specification as set forth above for Claim 44. Claim 53 recites the steps of actuating one of the switches to cause the operator system to close the barrier, causing the base transmitter to transmit a signal to the remote receivers, transmitting an acknowledgement from any one of the remote

control units which has received a signal, sending an additional signal from the base transmitter to any one remote control unit to cause a transmitter associated therewith to cease responding to a signal from the base transmitter, causing the base transmitter to continue to send a periodic signal searching for any of the remote control units which has not responded to a signal from the base transmitter and causing the operator system to move the barrier to an open position in response to receiving a signal from a remote transmitter which has moved into range of signals between the base transmitter and the remote transmitter which has moved into range. The method steps set forth in Claim 53 are believed to be adequately described on page 17, paragraph 0036, in its entirety.

With regard to Claim 54, the operator system set forth in this claim is believed to be described in the same places in the specification as set forth above for Claim 44. The method steps set forth in Claim 54 include the step of actuating the base switch to cause the operator to open the barrier, causing the base transmitter to emit signals in response to actuation of the base switch to search for a remote control unit and causing the barrier to remain in an open position as long as the base receiver receives a signal from at least one remote control unit in response to the search signal, this methodology is believed to be described beginning on page 17, paragraph 0038 in its entirety.

With regard to Claim 55, the operator system described in this claim is believed to be adequately described in the same places in the specification as set forth above for Claim 44 and the steps of actuating one of the switches to cause the operator system to open the barrier, causing the base transmitter to emit a search signal in response to the actuation of the switch to search for a remote control unit and causing the barrier to remain open as long as the base receiver fails to receive a signal from one of the remote

control units is believed to be described in paragraph 0038, beginning on line 10 of the paragraph (page 18).

With regard to Claim 56, the operator system set forth in this claim is also believed to be described adequately in the same places in the specification as set forth hereinabove for Claim 44. The method steps set forth in Claim 56 of causing the base transmitter to transmit a search signal to the remote control units, causing the barrier to open if one of the remote control units moves into range of the search signal and causing the barrier to close if the said one remote control unit moves out of range of the search signal is believed to be adequately described in paragraph 0041 on page 19 beginning on line 10 of the paragraph.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection presented for review are the rejection of Claims 44 and 48 through 56 under 35 U.S.C. 103(a) as being unpatentable over the teaching of U.S. Patent 6,388,559 to Cohen in view of U.S. Patent 5,291,193 to Isobe et al.

ARGUMENT

The rejection of Claim 44 under 35 U.S.C. 103(a)

In the Office Action, the Examiner rejected Claim 44 as being obvious over the teaching of Cohen in view of Isobe et al. Claim 44 includes the step of causing the barrier to move from a closed position to an open position in response to a signal from any one of the remote transmitters and remain in an open position as long as any one of the remote control units containing such transmitters is within a radio frequency communication range of the controller. In at least these respects Claim 44 is believed to be patentably distinct from the teaching of Cohen and Isobe et al. taken alone or one reference modified in view of the other. The Cohen reference discloses a remote control garage door operating system wherein a base transmitter transmits signals to a remote control unit and, if an acknowledgement signal is received back from the remote control unit, the door or barrier which

has been previously opened to initiate the process will cause the control system to store the state signal (barrier in open position) and commence a time delay period after which the barrier is automatically closed. Cohen does not contemplate a system which causes the door or barrier to move from a closed position to an open position in response to a signal from any one of plural remote control units and remain in the open position as long as any one of the remote control units is within radio frequency communication range of the control unit. Accordingly, an important attribute of the system set forth in Claim 44 is one wherein the system provides for automatically opening the door when a remote control unit moves into range. Cohen does not address this methodology and only provides for closing the door when the remote control unit or units move out of range.

With regard to the Isobe et al. reference, this patent is not directed to a barrier operator system which has automatic opening and closing functions. Isobe et al. does disclose a wireless transmission - reception control system which includes a centralized or base station and plural remote units. However, Isobe et al. allows coded signals from plural transmitters to be automatically registered in a base receiver but there is clearly no suggestion in Isobe et al. to provide a method of operating a barrier or garage door to move from a closed position to an open position in response to an operator having a controller which causes the barrier to move to the open position in response to a signal from a remote transmitter and to remain in the open position as long as any one of the remote control units is within a radio frequency communication range. Accordingly, the rejection of Claim 4 is believed to be in error and this claim is believed to be patentably distinct from the teaching of the prior art.

The rejection of Claim 48 under 35 U.S.C. 103(a)

Claim 48, as pointed out above, recites the steps of causing the base transmitter of the door operator control system to transmit a radio frequency signal to a remote

receiver, causing actuation of a base switch to effect opening of the door or barrier and causing the controller or control unit to maintain the barrier open as long as the controller receives a signal from at least one remote transmitter. Neither Cohen or Isobe et al. disclose or suggest automatic operation of a door or barrier operator which is based on actuating a switch to move the barrier from a closed position to an open position and then causing the barrier to remain in the open position as long as the controller receives a signal from at least one remote transmitter. Accordingly, the rejection of Claim 48 is believed to be in error.

The rejection of Claim 49 under 35 U.S.C. 103(a)

Claim 49 includes the steps of causing the base transmitter of a control system for a barrier, such as a gate or garage door, to transmit signals to remote receivers associated with remote control units, actuating a remote switch associated with a remote control unit to effect closing of the door or barrier and maintaining the door or barrier in a closed position if at least one of the remote receivers is outside a signal receiving range and another one of the remote receivers is within a signal receiving range. The Cohen reference does not disclose or suggest a system which includes more than one remote transmitter. Accordingly, Cohen clearly does not suggest a system capable of operating with the steps of Claim 49. Although Isobe et al. discloses plural remote control units, this reference is clearly not concerned with operating methods for a barrier operator wherein communication takes place between a base transmitter/receiver and plural remote control units. Moreover, Appellant respectfully submits there is no teaching in the art of record of a method of operating a barrier, such as a gate or garage door, which includes steps of actuating a switch of a remote control unit to close the barrier and then maintaining the barrier in a closed position if at least one remote control unit is outside of a signal receiving range and another one of remote control

units is within a signal receiving range. Accordingly, the rejection of Claim 49 is also believed to be in error.

The rejection of Claims 50 and 51 under 35 U.S.C. 103(a)

Claim 50 includes the steps of causing a base transmitter of an operator system controller to transmit a radio frequency signal to plural remote receivers, causing the barrier to be opened, causing the controller to maintain the barrier open if one of the remote control units is in signal receiving range and another one of the remote control units is out of signal receiving range. As pointed out with respect to the rejection of Claim 49, Cohen does not disclose or suggest methodology for causing the operator system of Cohen to maintain a barrier in an open position in the situation where one remote control unit is out of signal receiving range while another remote control unit is in signal receiving range. In particular, Cohen does not disclose or suggest a system which is operable to open a barrier or a system operable with more than one remote control unit. Moreover, modifying Cohen as suggested by Isobe et al. would not provide the combination of steps set forth in Claim 50.

With regard to Claim 51, neither Cohen nor Isobe et al. suggest the step of causing the controller of a barrier, such as a gate or garage door, to close the barrier if the one remote control unit set forth in Claim 50 ceases to be in signal receiving range of a signal from the operator system based transmitter.

The rejections of Claims 50 and 51 are believed to be in error for the reasons set forth above.

The rejection of Claim 52 under 35 U.S.C. 103(a)

Claim 52 includes the steps of causing a barrier operator to close the barrier in response to actuation of a switch of either a base control unit or a remote control unit and then causing the barrier to open when a base receiver of the system receives a signal from one of the remote control unit transmitters in response to a signal from a base transmitter received by one of the remote control unit receivers connected

to one of the remote control unit transmitters. This combination of features and steps provides for automatic opening of the barrier when a remote control unit moves into range after the barrier has been instructed to close by actuation of a remote control unit or a switch mounted on a wall mounted control unit within the garage, for example. Clearly, neither Cohen nor Isobe et al. contemplate or suggest a methodology as set forth in Claim 52 and the rejection of this claim is believed to also be in error.

The rejection of Claim 53 under 35 U.S.C. 103(a)

Claim 53 includes the steps of actuating one or more switches of a remote control unit or a human operator controllable base switch connected to a base control circuit to cause the operator system to close the barrier, cause the base transmitter to transmit a radio frequency signal to plural remote receivers, transmit an acknowledgement signal from any one of the remote control units which has received a signal from the base transmitter, send an additional signal from the base transmitter to cause a remote transmitter associated with any one of the remote control units to cease responding to a signal from the base transmitter, causing the base transmitter to continue to send a periodic signal searching for any one of the remote control units which has not responded and causing the operator system to move the barrier to an open position in response to receiving a signal by the base receiver from a remote transmitter which has moved into range. As pointed out hereinabove with respect to all of the claims which include the step of moving the barrier to an open position, neither Cohen nor Isobe et al. suggest this step of moving a barrier to an open position, nor do the references suggest the overall combination of steps in an automatic mode, as set forth in Claim 53, the attributes of which steps are clearly evident from the teaching of the present invention. The Examiner has taken the position that, although Cohen only states that the control system disclosed in Cohen is used to close a door after a remote control unit

has left receiving and transmitting range, it would be well within the purview of one of ordinary skill in the art to provide communication between a base unit and a remote unit to serve to open the door upon reentry of the remote unit into base unit range. The Examiner further takes the position that movement into and out of range effects opening and closing of the door dependent on the last stored position of the door in the control system. However, Appellant respectfully submits that Cohen fails to suggest such a concept and, in particular, Cohen taken alone or as modified by Isobe et al. fails to suggest sending an additional signal from a base transmitter to any one remote control unit to cause a remote transmitter associated with any one remote control unit to cease responding to a signal from the base transmitter, causing the base transmitter to continue to send a periodic signal searching for any one of the remote units which has not responded, and then causing the system to move the barrier to an open position in response to receiving a signal from a remote transmitter which has moved into range. In this way, in the operation of an automatic barrier operator system in accordance with Claim 53, the system can provide control to open the barrier when one transmitter is within range and another transmitter has moved out of range but then moved back into range, a common situation in a garage door for a garage in which more than one vehicle is to be parked. Neither Cohen nor Isobe et al. address this issue and the rejection of Claim 53 is believed to be in error.

The rejection of Claim 54 under 35 U.S.C. 103(a)

Claim 54 includes the steps of actuating a base switch of a barrier operator system to cause a barrier operator to open a barrier, cause the base transmitter of the system to emit signals in response to actuation of the base switch to search for plural remote control units and cause the barrier to remain open as long as the base receiver receives a signal from at least one remote control unit in response to the search signal. As pointed out hereinabove, the Cohen

reference taken alone or modified by Isobe et al., clearly fails to contemplate a method of controlling a barrier to remain open when there are plural remote control units and the operator has been caused to open the barrier by actuation of a so-called base switch. This methodology is clearly advantageous from the standpoint of, in a garage door setting for example, allowing the door to remain open when it has been caused to open purposely (actuation of the base switch) and a remote control unit is within range. In this mode, if a vehicle with a remote control unit remains parked in the garage and the garage door base switch is actuated, the system will wait until that vehicle has left the garage before the change in state will occur. The rejection of Claim 54 is believed to be in error.

The rejection of Claim 55 under 35 U.S.C. 103(a)

Claim 55 includes the steps of actuating a remote control unit switch or a so-called human operator controllable base switch to cause the operator to open the barrier, followed by causing the base transmitter to emit a search signal to search for plural remote control units and to cause the barrier to remain open as long as the base receiver fails to receive a signal from one of the remote control units in response to the search signal. This methodology contemplates the situation, for example, where the barrier remains open as a consequence of being instructed to open even though it is unable to detect the presence of a remote control unit within radio frequency range. Cohen, taken alone or modified by Isobe et al., clearly fails to contemplate a method as set forth in Claim 55 and the rejection of Claim 55 is believed to be in error.

The rejection of Claim 56 under 35 U.S.C. 103(a)

Claim 56 includes the method steps of causing a base transmitter to transmit a search signal to plural remote control units, cause the barrier to open if one of the remote control units moves into range of the search signal and causing the barrier to close if the one remote control unit then moves out of range of a search signal from the base

transmitter. Claim 56 contemplates a situation which might occur in a garage door operator when a vehicle mounted remote control unit moves briefly into range of the search signal and then departs the range of the search signal, a scenario clearly not contemplated by nor made obvious by the teaching of Cohen alone or modified by Isobe et al. The rejection of Claim 56 is believed to be in error also.

Appellant respectfully submits that the Examiner has erred in rejecting Claims 44 and 48 through 56 over the prior art of record. The rejection of Claims 44 and 48 through 56 should be reversed and Claims 44 and 46 through 56 passed to issue.

Respectfully submitted,

Date: 12/09/05

Michael E. Martin
Michael E. Martin
Registration No. 24,821
Agent for Appellant

Gardere Wynne Sewell LLP
1601 Elm Street, Suite 3000
Dallas, Texas 75201-4761
Phone (214) 999-3000
Fax (214) 999-3623

APPENDIX TO BRIEF ON APPEAL
CLAIMS

44. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a radio frequency base transmitter and a radio frequency base receiver and plural remote control units operable to communicate with said controller, each of said remote control units including a radio frequency remote transmitter and a radio frequency remote receiver, said method comprising the steps of:

causing said base transmitter to transmit a radio frequency signal to said remote receivers;

causing said control circuit to effect one of opening and closing said barrier depending on whether or not said base receiver receives a signal from at least one of said remote transmitters; and

causing said barrier to move from a closed position to an open position in response to a signal from any one of said remote transmitters and remaining in an open position as long as any one of said remote control units is within a radio frequency communication range of said controller.

46. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller by way of said base receiver, each of said remote control units including a radio frequency remote transmitter and a radio frequency remote receiver, said method comprising the steps of:

causing said base transmitter to transmit a radio frequency signal to said remote receivers;

causing said controller to effect one of opening and closing said barrier dependent on said base receiver receiving a signal from a remote transmitter of one of said plural remote control units;

actuating said base switch to effect closing of said barrier;

causing said controller to determine if all of said remote control units are within a range of said controller effective to receive signals from all of said remote transmitters; and

causing said base transmitter to cease transmitting signals to said remote receivers if all of said remote control units are within said range.

47. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller by way of said base receiver, each of said remote control units including a radio frequency remote transmitter and a radio frequency remote receiver, said method comprising the steps of:

causing said base transmitter to transmit a radio frequency signal to said remote receivers;

causing said controller to effect one of opening and closing said barrier dependent on said base receiver receiving a signal from a remote transmitter of one of said plural remote control units;

causing said controller to effect closing of said barrier;
and

ceasing transmission of signals from said base transmitter if said base receiver receives a signal from all of said remote control units.

48. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller by way of said base receiver, each of said remote control units including a radio frequency remote transmitter and a radio frequency remote receiver, said method comprising the steps of:

causing said base transmitter to transmit a radio frequency signal to said remote receivers;

actuating said base switch to effect opening of said barrier; and

causing said controller to maintain said barrier in an open condition as long as said base receiver receives a signal from at least one remote transmitter.

49. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller, each of said remote control units including a radio frequency remote transmitter, a radio frequency remote receiver and a human operator controllable remote switch operably connected to said remote transmitter, said method comprising the steps of:

causing said base transmitter to transmit a radio frequency signal to said remote receivers;

actuating one of said remote switches to effect closing said barrier; and

maintaining said barrier in a closed position if at least one of said remote receivers is outside a signal receiving range of a signal from said base transmitter and another one of said remote receivers is in a signal receiving range of said base transmitter.

50. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller, each of said remote control units including a radio frequency remote transmitter and a radio frequency remote receiver, said method comprising the steps of:

causing said base transmitter to transmit a radio frequency signal to said remote receivers;

causing said controller to open said barrier; and

causing said controller to maintain said barrier in an open position if one of said remote control units is in signal receiving range of said radio frequency signal from said base transmitter and another one of said remote control units is out of signal receiving range of said base transmitter.

51. The method set forth in Claim 50 including the step of:

causing said controller to close said barrier if said one remote control unit ceases to be in signal receiving range of a signal from said base transmitter.

52. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller, each of said remote control units including a radio frequency remote transmitter, a radio frequency remote receiver and a human operator controllable remote switch operably connected to a remote transmitter, said method comprising the steps of:

causing said controller to close said barrier in response to actuation of one of said switches;

causing said base transmitter to transmit a radio frequency signal to said remote receivers; and

causing said barrier to open when said base receiver receives a signal from one of said remote transmitters in response to a signal from said base transmitter received by a remote receiver operably connected to said one remote transmitter.

53. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller, each of said remote control units including a radio frequency remote transmitter, a radio frequency remote receiver and a switch operable to cause said remote transmitter to transmit a signal to said base receiver, said method comprising the steps of:

actuating one of said switches to cause said operator system to close said barrier;

causing said base transmitter to transmit a radio frequency signal to said remote receivers;

transmitting an acknowledgement signal from any of said remote control units which has received a signal from said base transmitter;

sending an additional signal from said base transmitter to said any one remote control unit to cause a remote transmitter associated with said any one remote control unit to cease responding to a signal from said base transmitter;

causing said base transmitter to continue to send a periodic signal searching for any of said remote units which has not responded to a signal from said base transmitter; and

causing said operator system to move said barrier to an open position in response to receiving a signal by said base receiver from a remote transmitter which has moved into range of signals between said base transmitter and said remote transmitter which has moved into said range.

54. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller, each of said remote control units including a radio frequency remote transmitter, a radio frequency remote receiver and a switch operable to cause said remote transmitter to transmit a signal to said base receiver, said method comprising the steps of:

actuating said base switch to cause said operator to open said barrier;

causing said base transmitter to emit signals in response to actuating said base switch to search for said remote control units; and

causing said barrier to remain in an open position as long as said base receiver receives a signal from at least one of said remote control units in response to said search signal from said base transmitter.

55. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said controller, each of said remote control units including a radio frequency remote transmitter, a radio frequency remote receiver and a switch operable to cause said remote transmitter to transmit a signal to said base receiver, said method comprising the steps of:

actuating one of said switches to cause said operator system to open said barrier;

causing said base transmitter to emit a search signal in response to actuating said one switch to search for said remote control units; and

causing said barrier to remain in an open position as long as said base receiver fails to receive a signal from one of said remote control units in response to said search signal from said base transmitter.

56. A method for operating a barrier, such as a gate or garage door, to move between open and closed positions, said barrier being operably connected to an operator system including a controller comprising a base control circuit, a human operator controllable base switch operably connected to said base control circuit, a radio frequency base transmitter, and a radio frequency base receiver and plural remote control units operable to communicate with said base control circuit by way of said base receiver, each of said remote control units including a

radio frequency remote transmitter, and a radio frequency remote receiver, said method comprising the steps of:

causing said base transmitter to transmit a search signal to said remote control units;

causing said barrier to open if one of said remote control units moves into range of said search signal; and

causing said barrier to close if said one remote control unit then moves out of range of a search signal from said base transmitter.

DALLAS 1602993v1